

### Abstract of the Disclosure

A hydraulic circuit branch includes a hydraulic actuator, such as a cylinder, and an assembly of one or more electrohydraulic proportional valves connected in series between a pressurized fluid supply line and a tank return line. The force acting on the hydraulic actuator is determined by sensing fluid pressures produced by the hydraulic actuator. Pressures in the supply and tank return lines also are sensed. The sensed pressures and a desired velocity for the hydraulic actuator are employed to determine an equivalent flow coefficient, which characterizes fluid flow through the hydraulic circuit branch, either a conduction or restriction coefficient may be derived. The equivalent flow coefficient is used to determine how to activate each electrohydraulic proportional valve to achieve the desired velocity of the hydraulic actuator. The equivalent flow coefficient also is employed to control the pressure levels in the supply and tank return lines.